

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application. Please cancel claims 1 and 2 without prejudice or disclaimer.

Listing of claims:

- 1-2. (Canceled)
3. (Currently amended) A tooth system in accordance with ~~claim 2,~~claim 20, wherein the projection arms comprise an, essentially vertically arranged, upper arm, a, essentially vertically arranged, lower heel and two, essentially horizontally lateral wing portions.
4. (Currently amended) A tooth system in accordance with ~~claim 1,~~claim 20, wherein the tooth leg has a rearwards convergent cross section.
5. (Currently amended) A tooth system in accordance with claim 4, wherein the cavity is designed as a notch inwardly convergent of the holder ~~[[4]]~~.
6. (Currently amended) A tooth system in accordance with ~~claim 1,~~claim 20, wherein the cavity ~~[[14]]~~ is open rearwards and upwards such that an open notch runs along the top side of the holder.
7. (Currently amended) A tooth system in accordance with ~~claim 1,~~claim 20, wherein the cavity's rear part is comprised of lengthwise side walls and a bottom that is essentially perpendicularly arranged to each other with the cavity open upwards and to the rear, so that the cross section of this part is essentially U-shaped.
8. (Currently amended) A tooth system in accordance with ~~claim 1,~~claim 20, wherein a cross section within a middle part of the cavity comprises a truncated, lower triangular part with essentially rounded corners, where the blunt, lower side forms the cavity's bottom and where the cross section's lower corners preferably comprise lengthwise clearance surfaces, while the cross section's upward continuation is primarily formed by inwardly angled lengthwise sides

intended to form interacting contact zones together with the tooth leg's side surfaces and thereafter by lengthwise, essentially vertical, side walls at a certain distance from one another forming an upwardly open, upper notch neck.

9. (Currently amended) A tooth system in accordance with ~~claim 1~~, claim 20, wherein the grooves within a front part of the cavity each comprise an outwardly dilating of the notch cross section from within the cavity and forward in relation to the axial symmetry axis Y.

10. (Currently amended) A tooth system in accordance with ~~claim 1~~, claim 20, wherein a middle part of the cavity has a play arranged in part between the tooth leg's lower sides and the cavity's lengthwise sides at the cavity's bottom, and in part between the tooth portion's spine part's sides and the cavity's lengthwise upper sides and between the tooth leg underside and the cavity's bottom.

11. (Currently amended) A tooth system in accordance with ~~claim 1~~, claim 20, wherein the tooth portion comprises a spine part protruding through the open notch.

12. (Previously presented) A tooth system in accordance with claim 11, wherein a secondary material reinforcement is arranged at the tooth portion's spine part.

13. (Currently amended) A tooth system in accordance with ~~claim 1~~, claim 20, wherein along a rear part of the joint between the connection parts are contact surfaces arranged in an acutely pointed angle δ that is less than 10° with respect to the lengthwise symmetry axis Y or parallel to the lengthwise symmetry axis Y.

14. (Currently amended) A tooth system in accordance with ~~claim 1~~, claim 20, wherein the tooth portion or the holder comprises a protruding torque heel and that the opposed connection part comprises a corresponding depression, interacting with the heel to absorb the laterally impacting transverse forces, which impact perpendicular to the axial symmetry axis Y.

15. (Currently amended) A tooth system in accordance with ~~claim 1~~, claim 20, wherein the projection arms are comprised by one, essentially somewhat forwardly inclined and upward symmetrically arranged, tooth point, and the two, essentially horizontal, lateral wing

portions symmetrical on either side of the tooth point and an essentially downward vertically designed heel.

16. (Currently amended) A tooth system in accordance with ~~claim 1~~, claim 20, wherein, after the assembly of the holder and the tooth portion, an impact zone at the beginning of the joint between them forms a common stop zone, whose stop surfaces comprise the front side of the holder and the opposed back side of the tooth portion, where the greater part of the tooth portion's surfaces that is in contact with the front side of the holder, are situated on the same side as the holder of an imagined vertical plane positioned directly in front of the forwardmost parts of the holder.

17. (Currently amended) A tooth system in accordance with ~~claim 1~~, claim 20, wherein the essentially greater part of the loads and the torques resultant therefrom are absorbed through contact surfaces primarily at the forward part of the joint.

18. (Currently amended) A tooth system in accordance with ~~claim 2~~, claim 20, wherein contact zones for winch force absorption, as well as the torques resultant therefrom, are arranged along lower contact surfaces at the tooth portion's two lateral wing portions and upper contact surfaces at the top side of the tooth leg.

19. (Currently amended) A tooth system in accordance with ~~claim 2~~, claim 20, wherein contact zones for shearing force absorption, as well as that of torques resultant therefrom, are arranged along upper contact surfaces at the tooth portion's two lateral wing portions and lower contact surfaces at the lower side of the tooth leg.

20. (Currently amended) ~~A tooth system in accordance with claim 2.~~ A tooth system intended for a tool of an earth moving machine, which tooth system is of the type comprising a holder attached to the tool and a front tooth portion, which is detachably arranged in relation to and on the holder and is in the form of an exchangeable wear part, replacement part, or both intended for the actual earth moving, which tooth portion comprises a rear leg and the holder comprises a cavity designed to receive the leg during interaction with the tooth portion and, thus, achieve a common joint for the absorption of arising forces through a predetermined connection

geometry comprising special, opposed, mutually interacting contact surfaces and, at least initially, clearance surfaces that are arranged along the tooth portion and holder, wherein the tooth leg and cavity, along at least a front part of said joint have a multi-armed, cruciform, cross section comprising projection arms, and grooves each interacting with a projection arm and wherein a tensioning device is arranged at the cavity's rear part for achieving a tightening and adjustable pretensioning of the tooth portion in relation to the holder essentially axially along the cavity's longitudinal symmetry axis Y.

wherein the projection arms comprise at least one essentially vertically arranged arm or heel and two, theretoward essentially lateral, wing portions, and

wherein contact zones for transverse force absorption, as well as that of torques resultant therefrom, depending on a given force's direction of impact, are arranged along at least an essentially vertical, lengthwise contact surface at the torque heel, at least one upper, inclined, lengthwise contact surface at the top side of the tooth leg, at least one lower, essentially horizontal, lateral contact surface at one of the tooth portion's lateral wing portions, at least one upper, inclined contact surface at the tooth portion's other lateral wing portion and at least one upper, essentially horizontal, lateral contact surface at the tooth portion's other lateral wing portion; or, for a force from the opposite direction, essentially through the corresponding contact surfaces.

21. (Currently amended) A tooth system in accordance with ~~claim 2,~~ claim 20, wherein the transverse and shearing and normal forces leverage ratio in relation to the axial symmetry axis Y and a fulcrum point around which the torsion occurs in the joint between the connection parts, where the tooth portion's protruding length along the axial symmetry axis Y from said fulcrum defines the first lever arm and where the length along the axial symmetry axis Y of the tooth leg inserted in the holder from said fulcrum defines the second level arm, is less than one.

22. (Currently amended) A tooth system in accordance with ~~claim 1,~~ claim 20, wherein the removably attachable fastening device at the back side of the holder comprises a

fitting device, which is designed to fit the cavity's open rear part and against the tooth leg's end surface, a threaded bolt, which is arranged through the fitting device, with a forward claw or hook for interaction with a recess or a hook device arranged at the tooth portion, and a rear pretensioning and locking device comprising an elastic body and a locking mechanism for achieving a dynamic fixity and a reliable positioning at a predetermined position by the replaceable tooth portion at the holder through the multi-armed form and the adjustable pretensioning force.

23. (Currently amended) A tooth system in accordance with ~~claim 1, claim 20,~~ wherein the tooth system comprises a removable insert, suitably of hard metal, at the rear part of the joint within the cavity, which insert absorbs surface forces between the interacting connection parts.

24. (Currently amended) A tooth system in accordance with ~~claim 1, claim 20,~~ wherein the earth moving machine, the tool and the ~~wear and/or replacement part~~ exchangeable wear part, replacement part, or both for the removal and breaking of masses from a working surface, are ~~especially exemplified by a dredger cutter's bore bit with its replaceable wear teeth.~~

25. (New) A tooth system in accordance with claim 20, wherein the exchangeable wear part, replacement part, or both is a replaceable wear tooth.

26. (New) A tooth system in accordance with claim 20, wherein the tool is a bore bit.